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EXAMINER

RODRIGUEZ, PAUL L

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 12/24/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

58

Office Action Summary

Application No.

09/723,564

Applicant(s)

FORTH ET AL.

Examiner

Paul L Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 126-247 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 126-136, 138-153, 156-174, 176-195, 197-211, 213-225, 227-242, 244-247 is/are rejected.
- 7) ☒ Claim(s) 137, 154, 155, 175, 196, 212, 226 and 243 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 15.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. The Examiner of record has changed from Walter R. Swindell to Paul L. Rodriguez.

Election/Restrictions

2. Applicant's election of Group V in Paper No. 14 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Applicant stated that the election was made "without prejudice".

3. Claims 1-125 have been cancelled, claims 126-247 are presented for examination.

Priority

4. Acknowledgement is made of applicant's claim for domestic priority. Examiner has reviewed the parent application (08/798,723) for support of the claimed subject matter, based upon the disclosure of the parent document, the Examiner contends that only limited claimed subject matter is afforded the filing date of the parent applications.

Information Disclosure Statement

5. The IDS submitted 7/28/03 has been received and considered. The IDS of 7/28/03 listed all the references previously submitted on the five previous PTO-1449s, because they were previously cited and considered, the duplicate references have been lined through because only one listing is required. The previous Examiner of record indicated on the PTO-326 sent 9/9/03, that the references were considered. The current examiner of record has also considered all references presented in the application however is only returning an initialed copy of the IDS filed 7/28/03.

6. The information disclosure statement filed 7/28/03 contains a large number of references submitted for consideration that appear to be cumulative and are consistent with the progress in the art. In view of the number of references in this application, the Applicant is requested to identify any specific references, features, sections or figures in the references cited which are believed to have particular significance in the prosecution of this application or which are considered material to the patentability of the pending claims, for further consideration by the Examiner.

Drawings

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 111. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 430, 436. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to because of the following:

Figures 2a, 2b, 3b, 4b, 5a, 5b and 8-10 fail to comply with CFR 1.84, the margins are not adequate. Because of this holes punched in the paper have removed pertinent information from the figures.

Figure 2a labels the line from element 200 to a cloud as 215, reference number 215 is described as the network, in the figure the cloud should actually represents a network.

Figure 3a labels the line leaving 302 going to a cloud as the network 307, the cloud should be labeled as the network not the line.

Figure 3b, a network cloud is labeled with the word “network”, without a reference number, labeling should remain consistent.

Figure 4a, as described in the specification, uses a single line to represent the network 410, not consistent with labeling of a network.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

10. The examiner has provided a number of examples of the drawing deficiencies in the above, however, the list of deficiencies may not be all inclusive. Applicant should refer to these as examples of deficiencies and should make all the necessary corrections to eliminate the drawing objections.

Specification

11. The disclosure is objected to because of the following informalities:

Applicant refers to “internet” and/or “Internet” should comply with the following well known definitions, “internet” (lower case) is any interconnection of two or more computer networks, “Internet” is a specific collection of interconnected networks spanning countries throughout the world, use of the term should be verified.

Page 1 line 15 makes reference to a co-pending application, leaving the application number as a blank line, recommend updating.

Page 15 line 14 states “interconnected with...servers 121, 122, 123, 124”, and does not list 120 as depicted in figure 1.

Page 17 line 1 refers to “supplier/utility 123, 124”, previously “utilities/suppliers 130, 131” reference numbers 123 and 124 were “back end servers”.

Page 20 lines 10-11 states “utility 130 supplies power to consumer 132 via...110”, power is supplied via 101, 110 is the Internet.

Page 20 lines 14-15 states “132...monitors...150, using 104, 105, 108...” figure 1 only shows load 150 connected to 104, unsure if this statement is correct.

Page 22 line 25 refers to “loads 301” in reference to figure 3b, figure 3a labeled the load as 301, figure 3b labels the loads as 317.

Page 25 line 20 states “T he”, typo.

Page 25 line 15 states “T he”.

Page 27 line 18 refers to “distribution system 301”, previously load 301.

Page 29 line 3 refers to “...tariff structure 432”, figure 4b labels as 430.

Page 29 line 26 refers to “local management component 250”, previously 259.

Page 30 line 1 refers to “server 511”, reference number 511 in figure 5b is not a server.

Page 31 line 26 refers to “616 618”, missing comma. The specification has numerous instances where lists of numbers are not separated by a comma, could create confusion.

Page 32 lines 6-11 refers to commonly assigned application without a serial number, number should be provided.

Page 32 line 20 refers to “loads 724 726”, missing a comma, figure 7 lists the loads as 722, 724.

Page 33 line 12 refers to “IED 804 806”, should be 802, 804.

Page 36 line 28 refers to “5..0”, typo.

Page 36 line 28 refers to “data fro”, typo.

Appropriate correction is required.

12. The examiner has provided a number of examples of the specification deficiencies in the above, however, the list of deficiencies may not be all inclusive. Applicant should refer to these as examples of deficiencies and should make all the necessary corrections to eliminate the specification objections.

Claim Objections

13. Claims 126-129, 132, 162, 167, 175, 185, 186, 190-192, 196, 213 and 228 are objected to because of the following informalities:

Claim 126 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis is part of the claimed subject matter or not.

Claim 126 line 10 states “said IED”, previously recited as “at least one IED”, could create an antecedent problem in the claim.

Claim 127 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis is part of the claimed subject matter or not.

Claim 127 line 10 states “said IED”, previously recited as “at least one IED”, could create an antecedent problem in the claim.

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Claim 128 line 10 states “said IED”, previously recited as “at least one IED”, could create an antecedent problem in the claim.

Claim 129 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis is part of the claimed subject matter or not.

Claim 132 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis is part of the claimed subject matter or not.

Claim 162 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis (watt-hour) is part of the claimed subject matter or not.

Claim 165 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis (watt-hour) is part of the claimed subject matter or not.

Claim 175 line 2 states “said IED”, previously recited as “at least one IED”, could create an antecedent problem in the claim.

Claim 185 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis is part of the claimed subject matter or not.

Claim 186 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis is part of the claimed subject matter or not.

Claim 190 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis is part of the claimed subject matter or not.

Claim 191 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis is part of the claimed subject matter or not.

Claim 192 is objected to because it uses an acronym, this could render the claim indefinite because the meaning of the acronym is not defined in the claim.

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Claim 196 lines 2-3 states “said IED”, previously recited as “at least one IED”, could create an antecedent problem in the claim.

Claim 213 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis (watt-hour) is part of the claimed subject matter or not.

Claim 216 is objected to, could be considered indefinite because it is unclear whether the phrase contained in the parenthesis (watt-hour) is part of the claimed subject matter or not.

Claim 228 states “...system is response to...”, unclear if typo or text is missing.

Appropriate correction is required.

14. The examiner has provided a number of examples of the claim deficiencies in the above, however, the list of deficiencies may not be all inclusive. Applicant should refer to these as examples of deficiencies and should make all the necessary corrections to eliminate the claim objections.

Claim Rejections - 35 USC § 112

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 167-173, 179-184, 204, 205, 216, 219 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

16. Claim 167 recites the limitation "said electrical power management function" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Previously only recites, "power management function".

17. Claim 168 recites the limitation "said electric power" in line 2. There is insufficient antecedent basis for this limitation in the claim. Previously "an electric power management architecture", "electric power distribution system", "electric power management function" and "electrical power parameter", but not "an electric power".

18. Claim 169 recites the limitation "said electric power" in line 2. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 179 recites the limitation "said transmission onto said network" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim. Previously data is transmitted but it is not clear as to how or where it is transmitted, therefore transmission onto said network is not supported.

20. Claim 182 recites the limitation "said transmission onto said network" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

21. Claim 184 recites the limitation "said authentication data" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

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22. Claim 204 recites the limitation "said power degradation" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim. Previously "detect degradation".

23. Claim 205 recites the limitation "said electrical distribution system" in line 3. There is insufficient antecedent basis for this limitation in the claim. Previously "electrical power distribution system".

24. Claim 216 recites the limitation "said first network interface" line 5. There is insufficient antecedent basis for this limitation in the claim.

25. Claim 219 recites the limitation "said power quality events" in line 3. There is insufficient antecedent basis for this limitation in the claim.

26. Due to the number of 35 USC § 112 second paragraph rejections, the examiner has provided a number of examples of the claim deficiencies in the above rejection(s), however, the list of rejections may not be all inclusive. Applicant should refer to these rejections as examples of deficiencies and should make all the necessary corrections to eliminate the 35 USC § 112 second paragraph problems and place the claims in a proper format.

27. Due to the vagueness and a lack of a clear definition of the terminology and phrases used in the specification and claims, the claims have been treated on their merits as best understood by the examiner.

Claim Rejections - 35 USC § 102

28. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

29. Claims 126-128, 149-153, 156-158, 164, 167, 168, 174, 200-211 and 215 are rejected under 35 U.S.C. 102(b) as being anticipated by Buennagel (U.S. Pat 4,589,075). The claimed invention reads on Buennagel as follows:

Buennagel discloses (claim 126) an electrical power management architecture for managing an electrical power distribution system (abstract) comprising a network (figure 1, col. 3 lines 6-25, connecting R1-12), at least one intelligent electronic device ("IED") (R1-12, M1-14, P1-8, col. 3 lines 6-25), coupled with said electrical power distribution system (M1-14, col. 4 lines 9-26, figure 5), and further coupled with said network (col. 4 lines 13-15), each of said at least one IED operative to implement a power management function in conjunction with a portion of said electrical power distribution system (col. 4 lines 9-26), said power management function operative to respond to at least one power management command and generate power management data (col. 3 lines 26-56, col. 4 lines 9-26), each of said at least one IED comprising a first network interface operative to couple said IED with said network and facilitate transmission of said power management data and receipt of said at least one power management command over said network (reference number 441, col. 4 lines 9-26), said architecture further comprising a power management application coupled with said network and operative to receive and process said power management data from said at least one IED and generate said at least one power management command to said at least one IED to implement said power management

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function (col. 3 lines 26-56, col. 1 line 47 – col. 2 line 2), said power management application further comprising a power quality monitoring application (the power management system addresses overall management and control, col. 1 lines 12-22 which addresses peak load problem where power production becomes “inefficient”, this inefficiency is considered a power quality issue, Therefore, Examiner considers the central controller as addressing and performing a quality monitoring application), (claim 127) said power management application further comprising a power reliability monitoring application (the power management system addresses overall management and control, col. 1 lines 12-22 which addresses peak load problem, this is also considered a reliability issue, therefore the Examiner considers the central controller as addressing and performing a reliability monitoring application), (claim 128) said power management application further comprising a power outage application (the power management system addresses overall management and control, col. 1 lines 12-22 which addresses peak load problem and specifically addresses power failure or blackout, therefore the Examiner considers the central controller as addressing and performing a outage monitoring application), (claim 149) wherein said power management application further comprises an electric power generation management application (col. 3 lines 30-34), (claim 150) wherein said power management application further comprises a load management application (col. 3 lines 30-35), (claim 151) wherein said load management application is operative to connect and disconnect loads to/from said electrical power distribution system (col. 3 lines 30-35), (claim 152) wherein said load management application is further operative to disconnect loads during high rate periods and connect loads during low rate periods to reduce electrical power costs (col. 2 line 59 – col. 3 line 5), (claim 153) wherein said load management application is further operative to disconnect loads during high demand periods and connect loads during low demand periods to reduce

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electrical power demand (col. 2 line 59 – col. 3 line 5), (claim 156) wherein said electrical power distribution system comprises a utility electrical power distribution network (reference number 116), (claim 157) wherein said electrical power distribution system comprises a consumer electrical power distribution network (reference number 116), (claim 158) wherein said network comprises a publicly accessible communications network (paging, col. 7 lines 21-30, col. 1 lines 36-38), (claim 164) wherein said at least one IED comprises an a protection relay (col. 4 lines 27-40, reference number 562), (claim 167) wherein said electrical power management function comprises monitoring at least one electrical power parameter of said portion of said electrical power distribution system (col. 4 lines 9-26), (claim 168) wherein said monitoring comprises monitoring by a supplier of said electrical power (col. 4 lines 27-40), (claim 174) wherein said power management data comprises power consumption data (col. 1 lines 36-38), (claim 200) wherein said power management application further comprises a centralized power management application (col. 3 lines 6-17, central controller 200), (claim 201) wherein said power management application further comprises a distributed power management application (R1-12, M1-14 are distributed and perform power management, considered distributed), (claim 202) wherein said power management application further comprises an application program interface to allow at least one power management application to interface with said electrical power management architecture (col. 2 line 59 – col. 3 line 5), (claim 203) wherein said power quality monitoring application is operative to monitor for degradation of power quality across said electrical power distribution system (sensing a peak load demand, col. 1 lines 12-22, because production becomes inefficient, this is inherent), (claim 204) wherein said power quality monitoring application comprises a local power quality monitoring application on a first of said at least one IED (M1-14) and operative to detect degradation on said portion of said electrical

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power distribution system and report said power degradation to a second of said at least one IED (R1-12, col. 3 line 24 – col. 4 line 40), (claim 205) wherein said second of said at least one IED is downstream of said first of said at least one IED on said electrical distribution system (data flows from M to R to 200, considered downstream) and further wherein said degradation comprises a catastrophic power quality event (blackout, peak load), said first of said at least one IED operative to warn said second of said at least one IED of said catastrophic event (M sends monitor data via R, considered inherent), (claim 206) wherein said power quality monitoring application is operative to detect a fault in said electrical power distribution system (M monitors load, inherent), (claim 207) wherein said power quality monitoring application is operative to correct a fault in said electrical power distribution system (inherent, loads are connected and disconnected), (claim 208) wherein said power quality monitoring application is operative to locate a fault in said electrical power distribution system (M1-14 detect load fault, location of M1-14 are known, locating the fault would be inherent), (claim 209) wherein said power quality monitoring application is operative to isolate a fault in said electrical power distribution system (loads are connected and disconnected, inherent), (claim 210) wherein said power quality monitoring application is further operative to control at least one protection relay coupled with said electrical power distribution system (reference number 562, col. 4 lines 27-40), (claim 211) wherein said power management application further comprises a power distribution system reliability monitoring application (the power management system addresses overall management and control, col. 1 lines 12-22 which addresses peak load problem, this is also considered a reliability issue, therefore the Examiner considers the central controller as addressing and performing a reliability monitoring application) and (claim 215) wherein said at least one IED comprises an a protection relay (col. 4 lines 27-40, reference number 562).

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Claim Rejections - 35 USC § 103

30. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

31. Claims 129-136, 138-146, 148, 159-163, 165, 169-173, 176-182, 185-195, 197-199, 213, 214, 216, 218, 219, 221-225, 227-242 and 244-247 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buennagel (U.S. Pat 4,589,075) in view of Collins et al (U.S. Pat 6,553,418).

Buennagel teaches most all of the instant invention as applied to claims 126-128, 149-153, 156-158, 164, 167, 168, 174, 200-211 and 215 above.

Buennagel fails to teach (claim 129-136) securing said power management data and commands from unauthorized access, authenticating secured power management data and commands, (claim 138) wherein said power management application is capable of substantially simultaneously receiving power management data from a plurality of said at least one IED,

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(claim 139) wherein said power management application comprises a data collection server coupled with said network and operative to receive said power management data, (claim 140) wherein said data collection server is operated by a customer of said electrical power distribution system, (claim 141) wherein said data collection server is operated by a provider of said electrical power distribution system, (claim 142) wherein said power management data is transmitted as electronic mail messages, said data collection server further comprising an electronic mail server, (claim 143-146) wherein said data collection server is further operative to receive said electronic mail messages, hypertext transfer protocol format, data files, extensible markup language format, (claim 148) a revenue meter, peer to peer application, (claim 159) wherein said network comprises a Transport Control Protocol/Internet Protocol ("TCP/IP") based network (claim 160) wherein said network further comprises the Internet (claim 161) wherein said network comprises an intranet, (162) wherein said at least one IED comprises an electric (watt-hour) meter, (claim 163) wherein said at least one IED comprises a revenue meter, (claim 165) wherein said at least one IED comprises a legacy electric (watt-hour) meter and a monitoring and control device coupled with said legacy electric (watt-hour) meter, said monitoring and control device comprising said first network interface, (claim 169) wherein said monitoring comprises monitoring by a consumer of said electrical power, (claim 170) wherein said electrical power management function further comprises computing revenue, (claim 171) wherein said electrical power management function further comprises reporting said computed revenue, (claim 172) wherein said electrical power management function further comprises computing usage, (claim 173) wherein said electrical power management function further comprises reporting said computed usage, (claim 176) wherein said at least one IED further comprises first computer logic including a protocol stack, said protocol stack comprising at least

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two layers from the group comprising an application layer; a transport layer; a routing layer; a switching layer; an interface layer, (claim 177) wherein said application layer comprises at least one application, said at least one application being operative to punch through a firewall, (claim 178) wherein said application layer comprises an electronic mail application, (claim 179-182) wherein said protocol stack further comprises a security module, (claim 185-188) wherein said application layer comprises an extensible markup language, hypertext transfer protocol, file transfer protocol application, instant messaging protocol, (claim 189) wherein said application layer supports peer to peer communications, (claim 190-192) wherein said protocol stack further comprises simple object access protocol, secure sockets layer, S-HTTP, (claim 193-195, 197-199) wherein said interface layer further comprises Ethernet, dial up modem, cellular modem, Bluetooth, AC power line communications, RF interface, (claim 213) wherein said at least one IED comprises an electric (watt-hour) meter, (claim 214) wherein said at least one IED comprises a revenue meter, (claim 216) wherein said at least one IED comprises a legacy electric (watt-hour) meter and a monitoring and control device coupled with said legacy electric (watt-hour) meter, said monitoring and control device comprising said first network interface, (claim 222) wherein said method further comprises controlling electrical generation systems, (claim 224) wherein said power management data comprises power consumption data, (claim 227) wherein said method further comprises computing at least one of revenue or cost using tariff/billing data, contained within said at least one power management command, (claim 234, 235) wherein said method further comprises said power management application further comprising a data collection server, (claim 236) wherein said power management application comprises an automated meter reading application, (claim 237) wherein said automated meter reading application further comprises a billing management application, (claim 238-241)

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wherein said method further comprises billing data, (claim 242) wherein said automated meter reading application further comprises a consumption management application, (claim 244) wherein said method further comprises reducing consumption on said portion of said electrical power distribution system in response to rate changes by said consumption management application, (claim 245, 246) wherein said method further comprises monitoring and tracking costs associated with consumption on said electrical power distribution system by said consumption management application and (claim 247) wherein said power management data comprises at least one power management command to at least one other of said at least one IED.

Collins et al teaches (claim 129-136) securing said power management data and commands from unauthorized access, authenticating secured power management data and commands (col. 8 line 49 – col. 9 line 10 discloses a VPN, this private network is considered by the Examiner to anticipate security of data transmission and to prevent unauthorized access), (claim 138) wherein said power management application is capable of substantially simultaneously receiving power management data from a plurality of said at least one IED (col. 1 lines 53-57), (claim 139) wherein said power management application comprises a data collection server coupled with said network and operative to receive said power management data (reference number 18) (claim 140) wherein said data collection server is operated by a customer of said electrical power distribution system (col. 2 lines 49-52), (claim 141) wherein said data collection server is operated by a provider of said electrical power distribution system (col. 2 lines 49-52), (claim 142) wherein said power management data is transmitted as electronic mail messages, said data collection server further comprising an electronic mail server (col. 2 lines 58-63, considered mail server) (claim 143-146) wherein said data collection server is

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further operative to receive said electronic mail messages, hypertext transfer protocol format, data files, extensible markup language format (col. 4 lines 17-21, because this is an Internet network, considered obvious known variations), (claim 148) a revenue meter (reference number 41), peer to peer application (by definition type of communications on essentially equivalent basis, nodes communicate on an equal basis and share resources, Internet considered to be peer to peer), (claim 159) wherein said network comprises a Transport Control Protocol/Internet Protocol ("TCP/IP") based network (col. 4 lines 17-21, reference number 12 is the Internet, known TCP/IP network), (claim 160) wherein said network further comprises the Internet (col. 4 lines 17-21, reference number 12), (claim 161) wherein said network comprises an intranet (VPN 64, known intranet), (claim 162) wherein said at least one IED comprises an electric (watt-hour) meter (reference number 34), (claim 163) wherein said at least one IED comprises a revenue meter (reference number 41), (claim 165) wherein said at least one IED comprises a legacy electric (watt-hour) meter (reference number 16) and a monitoring and control device coupled with said legacy electric (watt-hour) meter, said monitoring and control device comprising said first network interface (col. 3 line 63 - col. 4 line 12), (claim 169) wherein said monitoring comprises monitoring by a consumer of said electrical power (inherent to a local meter), (claim 170) wherein said electrical power management function further comprises computing revenue (inherent to a revenue meter), (claim 171) wherein said electrical power management function further comprises reporting said computed revenue (col. 6 lines 16-22), (claim 172) wherein said electrical power management function further comprises computing usage (col. 6 lines 16-35), (claim 173) wherein said electrical power management function further comprises reporting said computed usage (col. 6 lines 16-35), (claim 176) wherein said at least one IED further comprises first computer logic including a protocol stack, said protocol stack comprising at least two layers

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from the group comprising an application layer; a transport layer; a routing layer; a switching layer; an interface layer (inherent to Internet protocol and OSI model), (claim 177) wherein said application layer comprises at least one application, said at least one application being operative to punch through a firewall (firewalls are well known and would be obvious in a VPN/Internet architecture, (claim 178) wherein said application layer comprises an electronic mail application ((col. 2 lines 58-63, considered mail server), (claim 179-182) wherein said protocol stack further comprises a security module (col. 8 lines 32-48, inherent and obvious with VPN), (claim 185-188) wherein said application layer comprises an extensible markup language, hypertext transfer protocol, file transfer protocol application, instant messaging protocol, (col. 4 lines 17-21, because this is an Internet network, considered obvious known variations), (claim 189) wherein said application layer supports peer to peer communications (by definition type of communications on essentially equivalent basis, nodes communicate on an equal basis and share resources, Internet considered to be peer to peer), (claim 190-192) wherein said protocol stack further comprises simple object access protocol, secure sockets layer, S-HTTP (obvious to a secure network), (claim 193-195, 197-199) wherein said interface layer further comprises Ethernet, dial up modem, cellular modem, Bluetooth, AC power line communications, RF interface (obvious variations to internet connection), (claim 213) wherein said at least one IED comprises an electric (watt-hour) meter (reference number 34, 16), (claim 214) wherein said at least one IED comprises a revenue meter (reference number 41), (claim 216) wherein said at least one IED comprises a legacy electric (watt-hour) meter and a monitoring and control device coupled with said legacy electric (watt-hour) meter, said monitoring and control device comprising said first network interface (reference number 16 considered a legacy meter, reference number 34 would be considered non legacy), (claim 222) wherein said method further

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comprises controlling electrical generation systems (reference number 42), (claim 224) wherein said power management data comprises power consumption data (meter provides consumption data), (claim 227) wherein said method further comprises computing at least one of revenue or cost using tariff/billing data, contained within said at least one power management command (col. 7 line 64 – col. 8 line 9), (claim 234, 235) wherein said method further comprises said power management application further comprising a data collection server (reference number 18), (claim 236) wherein said power management application comprises an automated meter reading application (col. 4 lines 2-21, col. 5 lines 6-18), (claim 237) wherein said automated meter reading application further comprises a billing management application (col. 8 lines 10-20), (claim 238-241) wherein said method further comprises billing data (col. 8 lines 10-20), (claim 242) wherein said automated meter reading application further comprises a consumption management application (col. 8 lines 10-20), (claim 244) wherein said method further comprises reducing consumption on said portion of said electrical power distribution system in response to rate changes by said consumption management application (col. 8 lines 10-20), (claim 245, 246) wherein said method further comprises monitoring and tracking costs associated with consumption on said electrical power distribution system by said consumption management application (col. 8 lines 21-31) and (claim 247) wherein said power management data comprises at least one power management command to at least one other of said at least one IED (col. 10 line 13-19).

Buennagel and Collins et al are analogous art because they are both related to control of a power network.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize all the features of Collins et al in the network control system of

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Buennagel because Collins et al teaches a energy information and control system that allows various devices to communicate with each other and provides access to utility information on a real time basis and can provide access to consumption statistics for multiple locations located at relatively large distances apart, improving communications and accessibility (col. 1 line 47 – col. 3 line 17).

32. Claims 147, 166, 217 and 220 are rejected under 35 U.S.C. 103(a) as being obvious over Buennagel (U.S. Pat 4,589,075) as modified by Collins et al (U.S. Pat 6,553,418) and further in view of Van Doorn et al (U.S. Pat 5,736,847).

While Buennagel as modified by Collins et al teaches most all of the instant invention as applied to claims 126, 129 and 139 for the reasons above, differing from the invention as recited in claims 147, 166, 217 and 220 in that their combined teaching lacks a phasor processor and/or transducer.

Van Doorn et al teaches a phasor processor and transducer in a control and management system of a power distribution system (abstract).

Buennagel as modified by Collins et al and Van Doorn et al are analogous art because they are both related to power metering.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the phasor transducer and processor of Van Doorn et al in the control and management system of Buennagel as modified by Collins et al because Van Doorn et al teaches monitoring power parameters that can determine the quality of the power flowing in a power system and provide monitoring with high accuracy, also a monitoring device that contain modular components which would improve maintainability (col. 2 lines 1-16).

Allowable Subject Matter

33. Claims 137, 154, 155, 175, 196, 212, 226 and 243 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

34. Claims 183 and 184 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

35. The following is a statement of reasons for the indication of allowable subject matter: While Buennagel (U.S. Pat 4,589,075), Collins et al (U.S. Pat 6,553,418), Bowles et al (U.S. Pat 6,535,797), Sumic et al (U.S. Pat 6,259,972), Woolard et al (U.S. Pat 6,178,362), Pomatto (U.S. Pat 5,517,423) and Ouellette (U.S. Pat 5,495,239) disclose a power management architecture containing the power distribution network and a communications network for connecting intelligent electronic devices used to implement power management functions and perform power management applications and Bowles et al (U.S. Pat 6,535,797), Willoughby et al (U.S. Pat 6,549,880), Sumic et al (U.S. Pat 6,259,972) and Davis et al (U.S. Pat 5,576,700) disclose power management systems that specifically address power reliability, quality and outage in the power system, and Sumic et al (U.S. Pat 6,259,972) and Pomatto (U.S. Pat 5,517,423) specifically address the electronic devices as IEDs, none of these references taken either alone or in combination with the prior art of record disclose specifically:

(claim 137) “wherein said security module is further operative to augment said power management data transmitted onto said network with authentication data” and “said power

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management application comprises an authentication application operative to augment said at least one power management command transmitted onto said network with authentication data”,

(claim 154) “wherein said power management application further comprises an IED inventory application”,

(claim 155) wherein said power management application further comprises an IED maintenance application”,

(claim 175, 226) wherein said power management data comprises status data representative of a status of said IED”,

(claim 183) “wherein said authentication application comprises a cellular modem operative to determine a geographic location of said at least one IED, said authentication data including said geographic location”,

(claim 184) “wherein said authentication data includes a geographic location ID”,

(claim 196) “wherein said cellular modem is further operative to provide geographic location information of said IED to said application layer”,

(claim 212) “wherein said power management application further comprises an IED fraud detection application”,

(claim 243) “switching said electrical power distribution system to distribute power from a second supplier in response to a cost of said power from said first and second suppliers by said consumption management application”,

in combination with the remaining elements and features of the claimed invention. It is for these reasons that the applicant’s invention defines over the prior art of record.

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Conclusion

36. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Corrigan et al (U.S. Pat 6,313,752) – teaches a system for displaying on-line operating conditions of a power transmission network that indicates outages.

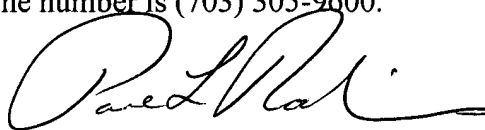
Schweitzer, III et al (U.S. Pat 5,680,324) – teaches an IED communicating over a network, used to control and manage a power substation.

Suzuki et al (U.S. Pat 4,641,248) – teaches a method of determining the reliability of a power system.

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul L Rodriguez whose telephone number is (703) 305-7399. The examiner can normally be reached on 6:00 - 4:30 T-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P Picard can be reached on (703) 308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.



Paul L Rodriguez
Examiner
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